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10/709,378	04/30/2004	Ronald K. Maxwell	57640.010273	3377

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EXAMINER
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ROST, ANDREW J

ART UNIT	PAPER NUMBER
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3753

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10/01/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/709,378	Applicant(s) MAXWELL ET AL.	
	Examiner Andrew J. Rost	Art Unit 3753	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-18, 20 and 21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-18, 20 and 21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                        | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. This action is in response to the amendment filed 7/26/2007. Claims 1 and 4 have been amended. Claims 9, 19 and 22 have been canceled. Presently, claims 1-8, 10-18 and 20-21 are pending.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3-5, 7, 8, 16-18 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Dreyer et al. (4,474,205).

Regarding claim 1, Dreyer et al. disclose a U-shaped flange (26) having an inner leg and outer leg (Figure 9, inner leg being attached by acorn nut 45 and outer leg being attached by nut 48), the U-shaped flange forming a closed loop (the U-shaped flange forms a closure with the addition of the seal membrane) and a flexible seal membrane (27) attached to the legs forming an air chamber (col. 3, lines 11-13) with the flexible seal membrane being operated by a source of vacuum and air pressure (not shown, col. 3, lines 59-61) that operate the flexible seal membrane through T-nozzle (37) with the vacuum removing the air from the air chamber (this removal of air from the air chamber provides a negative air pressure differential across the seal membrane).

In regards to claim 3, Dreyer et al. disclose a blade guide (28 in Fig. 9) adjacent the inner leg of the U-shaped flange and the inner leg of the U-shaped flange is longer than the outer leg of the U-shaped flange.

Regarding claims 4 and 21, Dreyer et al. disclose a frame (10), a blade plate (16), a seal cartridge (26) having an air chamber (col. 3, lines 12-13), and a series of bolts (34) and nuts (36) that are used to connect the seal cartridge frame (26) to the main frame (10) with the seal membrane being inflated and deflated by use of a vacuum and air pressure sources (not shown, col. 3, lines 59-61) that connect to the interior of the air chamber by T-nozzle (37) with the vacuum removing the air from the air chamber (this removal of air from the air chamber provides a negative air pressure differential across the seal membrane).

In regards to claim 5, Dreyer et al. discloses a blade guide (28 in Figure 9) attached to the seal cartridge so that no portion of the seal membrane extends past the blade guide when deflated.

In regards to claims 7 and 8, Dreyer et al. discloses a seal membrane attached to a U-shaped flange by two concentric rows of outwardly projecting, threaded studs (44 and 54) that are welded to frame (26) (Column 3, lines 13-17).

In regards to claims 16-18, Dreyer et al. discloses blade guide members that are welded inside frame (26) (Column 3, lines 23-26). The blade guide members are located at the open end of the U-shaped flange and have a circular cross section with the outer circumference extending past the length of the inner leg (Figure 9).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 6, and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. in view of Clark et al. (3,178,779).

Dreyer et al. discloses a U-shaped flange, sealing member and bolts for attaching the flange to the main frame. Dreyer et al. does not disclose seal membrane guides. However, Clark et al. discloses seal membrane guides for protecting seal. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to place the seal membrane guides of Clark et al. inside the seal cartridge of Dreyer et al. in order to protect and prolong the service life of the seal membrane.

Clark et al. discloses an inner seal membrane guide, the tip of the inner seal on the right side of Figure 2, and an outer seal membrane guide, the tip of the inner seal on the left side of Figure 2. The seal membrane guides define a minimum radius for the seal membrane when deflated (Figure 2). The inner and outer seal membrane guides are located nearer the open end of the U-shaped flange (23) than the attachment members. The rounded tips of the inner seal have circular cross sections (Figure 2).

6. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. in view of Machine Design, "Fluoroelastomer extends pump applications".

Q Dreyer et al. discloses a seal membrane of a flexible, durable material, such as laminated fabric of heat resistant rubber, with wire or fabric reinforcement (Column 3, lines 8-10). Dreyer does not disclose the use of fluoroelastic material. However, an article in Machine Design titled "Fluoroelastomer extends pump applications" discloses applications for fluoroel<sup>A</sup>astomers include seals, valve liners, O-rings, and pump linings (paragraph 3, line 4) because fluoroelastomers are able to better withstand high temperatures and harsh chemicals than hydrocarbon-based rubber components. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use the fluoroelastomer of the Machine Design article in place of the rubber of Dreyer et al. in order to provide a wider temperature and chemical ranges for the seal membrane.

7. Claims 12 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. as applied to claims 10 and 11 above, and further in view of Ryder, Jr. (4,381,985).

Dreyer et al. discloses a seal membrane of a flexible, durable material, such as laminated fabric of heat resistant rubber, with wire or fabric reinforcement (Column 3, lines 8-10). Dreyer et al. does not disclose the nature of the wire or fabric reinforcement. However, Ryder, Jr. discloses a corrosion-resistant springy, porous capillary material, such as webs of woven or non-woven synthetic fiber (e.g., polyester non-woven webs) (Column 1, lines 59-62) for constructing a membrane. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to use corrosion-

resistant fabric reinforcement like polyester of Ryder, Jr. as the fabric reinforcement of Dreyer et al. in order to prolong the life of the seal membrane.

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dreyer et al. in view of Luffel et al. (6,622,366).

Dreyer et al. discloses a connecting member (31) for raising and lowering the seal cartridge when the damper is raised or lowered (Column 4, lines 28-31). Dreyer et al. does not disclose the use of a hook to raise or lower the seal cartridge. However, Luffel et al. discloses the use of hooks and screws for the purpose of fastening objects together. Therefore, it would have been obvious to one of ordinary skill in the art at the time of invention to substitute the connecting rods (or bolts) of Dreyer et al. with the hooks of Luffel et al. in order to provide a quicker connecting means between the seal cartridge and blade damper.

### ***Response to Arguments***

9. Applicant's arguments filed 7/26/2007 have been fully considered but they are not persuasive.

Applicant's arguments regarding the method of inflation of the seal element are not persuasive. Applicant argues that the present invention is "configured in part to address this issue by providing a seal membrane which, in the presence of ambient or greater pressure in the air chamber 65 (which translates to a zero or positive pressure gradient with respect to the surrounding air), is self-supporting to create a seal against the blade part 16, and which moves away from the blade plate only when the pressure

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in the air chamber is less than ambient" (page 7, lines 11-16). It is acknowledged that Dreyer et al. disclose the inflation of the seal, for example, to a pressure of about 5 to 10 psi (col. 4, lines 6-9). Applicant has stated that the seal membrane that creates a seal in the presence of ambient pressure **or greater pressure** in the air chamber. Dreyer et al. disclose the presence of a positive pressure to create a seal. Further, claim 1 recites "wherein the seal membrane will bear against the damper blade, when the damper blade is in its closed position, under a pressure at least as great as ambient atmosphere" in lines 7-9. The positive pressure of Dreyer et al. is at least as great as ambient atmosphere.

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the removal of a negative pressure (page 8, first full paragraph)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Furthermore, in the originally filed disclosure in paragraph [0038], applicant discloses the sealing of the seal membrane "when compressed air is introduced into air chamber 65" (lines 11-12) or "when there is a neutral air pressure in air chamber 65" (line 13). Therefore, the applicant has disclosed the use of the introduction of compressed air and the use of neutral air in an air chamber to be functionally equivalent. Dreyer et al. disclose the application of 5-10 psi in order to re-inflate the



sealing ring. The addition of a positive pressure removes a negative pressure differential.

### ***Conclusion***

10. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew J. Rost whose telephone number is 571-272-2711. The examiner can normally be reached on 7:00 - 4:30 M-Th and 7:00 - 12:00 Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory Huson can be reached on 571-272-4887. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AJR, ASR 27 SEPTEMBER 2007

  
**JOHN RIVELL**  
**PRIMARY EXAMINER**  
**ART UNIT 347**